

Commonwealth of Kentucky
Division for Air Quality
EXECUTIVE SUMMARY

PROPOSED

Title V, Construction / Operating

Permit: V-05-067

Carbide Industries, LLC

3204 Industrial Parkway, KY HWY 1523

Calvert City, KY 42029

March 30, 2007

Vahid Bakhtiar, Reviewer

SOURCE ID: 21-157-00025

SOURCE A.I. #: 2928

ACTIVITY ID: APE20040001

SOURCE DESCRIPTION:

Carbide Industries, LLC located in Calvert City, Kentucky operates primarily an Industrial Inorganic Chemical – calcium carbide production facility. Acetylene is also produced at the facility as well as desulfurization reagents, calcium hydroxide, calcined anthracite coal, and electrode paste. The products are sold to a wide range of industries from acetylene producers, chemical manufacturers, steel foundries to aluminum producers.

The Calvert City facility produces calcium carbide from coke and lime in a 35 MW semi-sealed 3-phase submerged electric arc furnace. The calcium carbide is crushed and sized per customer specifications. Desulfurization reagents are produced by grinding calcium carbide in a ball mill to produce a very fine particle size and may be blended with various additives. Acetylene is also produced by the introduction of calcium carbide into water. The acetylene is then piped to the customer. The byproduct of the acetylene production, calcium hydroxide, is also shipped or piped to the customer. Electrode paste is produced by combining calcined coal and coal tar pitch. The pitch is heated to a semi-fluid state while mixing by a 2.009 mmBtu/hr natural gas process steam boiler. All raw materials are received and solid products are shipped via railcar or truck.

PUBLIC AND AFFECTED STATE REVIEW:

On January 10, 2007, the public notice on availability of the draft permit and supporting material for comments by persons affected by the plant was published in *The Tribune-Courier* in Benton, Kentucky. The public comment period expired 30 days from the date of publication. No states are affected by this permit action.

Comments received

Comments were received from Carbide Industries, LLC on February 9, 2007. Minor changes were made to the permit as a result of the comments received, however the Division has concluded that the proposed operation will comply with all air quality regulations and requirements. Therefore, the Division has made a final determination to issue a proposed permit. The proposed permit will become final upon approval of the EPA.